



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:

Brett J. Muir

Serial No. 09/874,426

Filed: June 4, 2001

For: COMPUTER INPUT DEVICE
HAVING HEATING AND/OR
VIBRATING ELEMENTS

§ Group Art Unit: 2674
§
§ Examiner: Nguyen, Kimnhung T.
§
§ Atty. Dkt. No.: 5181-76500
§

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November 2, 2004 Date	 Signature

FEE AUTHORIZATION

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Respectfully submitted,

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I. REAL PARTY IN INTEREST

The subject application is owned by Sun Microsystems, Inc., a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having its principal place of business at 901 San Antonio Road, Palo Alto, CA 94303, as evidenced by the assignment recorded at Reel 011888, Frame 0433.

II. RELATED APPEALS AND INTERFERENCES

No other appeals, interferences or judicial proceedings are known which would be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 1-19 are pending and rejected, and are the subject of this appeal. A copy of claims 1-19 as on appeal is included in the Claims Appendix hereto.

IV. STATUS OF AMENDMEMNTS

An amendment to the claims was submitted, subsequent to the final rejection, in a response dated August 2, 2004. According to the Advisory Action dated September 23, 2004, the amendment to the claims was entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

In various embodiments, such as in claim 1, an input device (e.g., a computer mouse or trackball) may include a heating element (e.g., a resistor) and be configured to transfer heat from the heating element to the hand or wrist of a user of the input device during use. *See, e.g.*, specification, p. 6, line 1 – p. 9, line 6.

In various embodiments, such as in claim 10, an input device may include a vibrating element and be configured to transfer vibrations from the vibrating element to the hand or wrist of a user of the input device during use. *See, e.g.*, specification, p. 9, line 8 – p. 11, line 22.

In various embodiments, such as in claim 19, an input device may include a heating element and a vibrating element and may be configured to transfer heat from the heating element and vibrations from the vibrating element to the hand or wrist of a user of the input device during use. *See, e.g.*, specification, p. 11, line 24 – line 28.

VI. GROUND S OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1, 3, 6, 8-10, 12, 15, and 17-19 are finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Lai (U.S. Patent 6,323,841) (hereinafter “Lai”) in view of Wolden (U.S. Patent 5,599,280) (hereinafter “Wolden”).

2. Claims 2, 4 and 5 are finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Lai in view of Wolden and further in view of Tu et al. (U.S. Patent 6,206,842) (hereinafter “Tu”).

3. Claims 11 and 13-14 are finally rejected under 35 U.S.C. §103(a) as being unpatentable over Lai in view of Wolden and further in view of Moriyasu (U.S. Patent 5,857,986) (hereinafter “Moriyasu”).

4. Claims 7 and 16 are finally rejected under 35 U.S.C. §103(a) as being unpatentable over Lai in view of Wolden and further in view of Wright, Sr. (U.S. Patent 5,686,005) (hereinafter “Wright”).

VII. ARGUMENT

First Ground of Rejection:

Claims 1, 3, 6, 8-10, 12, 15, and 17-19 are finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Lai (U.S. Patent 6,323,841) (hereinafter “Lai”) in view of Wolden (U.S. Patent 5,599,280) (hereinafter “Wolden”). Appellants traverse this rejection for the following reasons. Different groups of claims are addressed under their respective subheadings.

Claims 1, 3, 6, and 8-9

In order to reject a claim as obvious, the Examiner has the burden of establishing a *prima facie* case of obviousness. *In re Warner et al.*, 379 F.2d 1011, 154 U.S.P.Q. 173, 177-178 (C.C.P.A. 1967). To establish a *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (emphasis added) *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974), MPEP § 2143.03.

Neither Lai nor Wolden disclose, teach, or suggest, either separately or in combination “A computer mouse or trackball comprising: a heating element” as recited in claim 1. Neither of the references discloses a mouse or trackball that comprises a heating element. In addition, neither of the references discloses an input device comprising a heating element. The Examiner states: “Lai does not disclose a heating element... (Final Office Action, page 2).” Furthermore, Wolden only discloses a heating pad external to a keyboard (e.g., see Wolden, FIGs. 6-7). Wolden also states: “The device is a rectangular-shaped padded cushion placed in front of a computer keyboard... (Wolden, col. 1, lines 44-45).” Wolden does not suggest a mouse or trackball comprising a heating element.

Furthermore, neither Lai nor Wolden disclose, teach, or suggest, either separately or in combination “the input device is configured to transfer heat from the heating element to the hand or wrist of a user of the input device during use (emphasis added)” as recited in claim 1. Neither Lai nor Wolden disclose a heating element in an input device. It therefore follows that neither of the references teaches or suggests an input device transferring heat to a user’s hand or wrist during use. For example, the keyboard taught

by Wolden does not transfer heat to the user's hand or wrist during use. Instead, Wolden teaches a separate wrist pad (e.g., see Wolden, FIGs. 3, 6-7 and col. 2, lines 45-67) comprises heating elements. Applicant respectfully asserts claim 1 and claims dependent thereon are allowable for at least the above reasons.

In addition, the Office Action has not stated a prima facie case of obviousness for combining Lai and Wolden. As stated in the MPEP §2142:

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In *re* Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (emphasis added)

The art must fairly teach or suggest to one to make the specific combination as claimed. That one achieves an improved result by making such a combination is no more than hindsight without an initial suggestion to make the combination. "Most if not all inventions arise from a combination of old elements. *See In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998). Thus, every element of a claimed invention may often be found in the prior art. *See id.* However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. *See id.*" *In re Werner Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) (*emphasis added*). Applicant respectfully asserts claim 1 and claims dependent thereon are also allowable for at least the above reasons.

Neither Lai nor Wolden disclose, teach, or suggest, either separately or in combination, "a microcontroller coupled to the heating element" as recited in claim 3. The Examiner points to the control unit 20 of Wolden for this teaching. However,

Wolden states: “Control unit 20 comprises switches for controlling the electrical power to the heating elements and vibrating devices (Wolden, col. 2, lines 42-44).” Applicant respectfully asserts that the “switches” of Wolden are not microcontrollers. For example, as stated in the specification: “microcontroller 38 may be configured to automatically control the temperature of input device 30 (Specification, page 8, lines 6-7). ” Applicant respectfully asserts claim 3 is also allowable for at least the above reason.

In addition, neither Lai nor Wolden disclose, teach, or suggest, either separately or in combination “power to the heating element is supplied by the computer system” as recited in claim 6. The Examiner states:

However, Lai does not teach wherein power to the heating element is supplied by the computer. Wolden discloses wherein the power to the heating element is supplied by the computer input device (see column 2, lines 40-44).

Applicant notes Wolden, at column 2, lines 40-44 states:

FIG. 4 shows a control unit 20 and electrical cord 21 of the invention. Control unit 20 comprises switches for controlling the electrical power to the heating elements and vibrating devices. (Wolden, col. 2, lines 40-44).

Wolden does not disclose that the electrical cord 21 comes from the computer system. Applicant respectfully asserts claim 6 is also allowable for at least the above reasons.

Claims 10, 12, 15, and 17-18

Neither Lai nor Wolden disclose, teach, or suggest, either separately or in combination “the input device is configured to transfer vibrations from the vibrating element to the hand or wrist of a user of the input device during use” as recited in claim 10. The Examiner states: “Lai does not disclose mouse is (sic) configured to transfer vibrations from the vibrating element to the hand or wrist of a user of the input device (19) (Office Action, page 4).” Applicant agrees. Applicant also respectfully asserts Lai

teaches away from using a vibrating element in an input device during use. For example, Lai teaches “when the rear part (20) is connected with the front part (10) to form a whole mouse, the massaging head (21) is only a resilient soft pad and will not vibrate to affect the operation of the mouse. (emphasis added) (Lai, col. 3, lines 45-48).” As stated in MPEP §2141.02: “A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).” Applicant further points out Wolden does not disclose using a vibrating element in an input device. Wolden appears to disclose a separate device “placed in front of a computer keyboard (Wolden, col. 1, lines 44-45).” Wolden does not appear to disclose “A computer mouse or trackball comprising: a vibrating element” as recited in claim 10. Applicant respectfully asserts claim 10 and claims dependent thereon are allowable for at least the above reasons.

In addition, as discussed above with respect to claim 1, Applicant respectfully asserts Lai and Wolden are not properly combinable, and even if combined they would not produce the system of at least claim 10 or claims dependent thereon. Applicant respectfully asserts claim 10 and claims dependent thereon are also allowable for at least the above reasons.

Lai and Wolden do not disclose, teach, or suggest, either separately or in combination “the microcontroller is configured to control the amount of vibration produced by the vibrating element” as recited in claim 12. The Examiner points to Lai at column 3, lines 22-29 for this teaching. However, Lai teaches a massaging head that is either on or off. Lai does not appear to disclose a microcontroller to control the amount of vibration. Applicant respectfully asserts claim 12 is also allowable for at least the above reasons.

Claim 19

For similar reasons as discussed above with respect to claims 1 and 10, Lai and Wolden do not disclose, teach, or suggest, either separately or in combination “the input device is configured to transfer heat from the heating element to the hand or wrist of a user of the input device during use” and “the input device is configured to transfer vibrations from the vibrating element to the hand or wrist of a user of the input device during use” as recited in claim 19. Applicant respectfully asserts claim 19 is allowable for at least the above reasons.

In addition, as discussed above with respect to claim 1, Applicant respectfully asserts Lai and Wolden are not properly combinable, and even if combined they would not produce the system of at least claim 19. Applicant respectfully asserts claim 19 is also allowable for at least the above reasons.

Second Ground of Rejection:

Dependent claims 2, 4 and 5 are finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Lai in view of Wolden and further in view of Tu et al. (U.S. Patent 6,206,842) (hereinafter “Tu”). Claims 2, 4 and 5 are patentable as depending from a patentably distinct independent claim for the reasons given above in regard to the first ground of rejection.

Applicant respectfully asserts the Office Action has not stated a prima facie case of obviousness for combining Lai , Wolden, and Tu. As stated in the MPEP §2142:

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure. In

re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (emphasis added)

There is no teaching or suggestion to combine Lai, Wolden, and Tu either in the references or in the prior art. For example, Lai is directed to a computer mouse while Tu is directed toward a device for treating hemorrhoids. Applicant respectfully submits that the Examiner appears to be combining the references in a piecemeal fashion. As held by the U.S. Court of Appeals for the Federal Circuit in *Ecolochem Inc. v. Southern California Edison Co.*, an obviousness claim that lacks evidence of a suggestion or motivation for one of skill in the art to combine prior art references to produce the claimed invention is defective as hindsight analysis.

In addition, the showing of a suggestion, teaching, or motivation to combine prior teachings “must be clear and particular Broad conclusory statements regarding the teaching of multiple references, standing alone, are not ‘evidence’.” *In re Dembiczak*, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). The art must fairly teach or suggest to one to make the specific combination as claimed. That one achieves an improved result by making such a combination is no more than hindsight without an initial suggestion to make the combination. There is no motivation either in the references or in the prior art to combine the teachings of Lai, Wolden, and Tu. Applicant respectfully asserts claims 2 and 4-5 are allowable for at least the above reasons.

Third Ground of Rejection:

Dependent claims 11 and 13-14 are finally rejected under 35 U.S.C. §103(a) as being unpatentable over Lai in view of Wolden and further in view of Moriyasu (U.S. Patent 5,857,986) (hereinafter “Moriyasu”). Claims 11 and 13-14 are patentable as depending from a patentably distinct independent claim for the reasons given above in regard to the first ground of rejection.

Lai, Wolden, and Moriyasu do not disclose, teach, or suggest, either separately or in combination, “a vibration sensor coupled to the vibrating element” as recited in claim

11. The Examiner points to Moriyasu for this teaching. However, Moriyasu discloses “a detector to detect electronic signals sent between a computer and an input/output device (Moriyasu, col. 2, lines 1-3).” Lai, Wolden, and Moriyasu do not disclose a “vibration sensor.” In addition, the cited references do not disclose “the microcontroller is configured to control the vibrations produced by the vibrating element in response to the vibrations monitored by the vibration sensor (emphasis added)” as recited in claim 13 or “the computer system is configured to control the amount of vibration produced by the vibrating element in response to vibrations monitored by the vibrating sensor (emphasis added)” as recited in claim 14. Applicant respectfully asserts claims 11, 13, and 14 are allowable for at least the above reasons.

Fourth Ground of Rejection:

Dependent claims 7 and 16 are finally rejected under 35 U.S.C. §103(a) as being unpatentable over Lai in view of Wolden and further in view of Wright, Sr. (U.S. Patent 5,686,005) (hereinafter “Wright”). Claims 7 and 16 are patentable as depending from a patentably distinct independent claim for the reasons given above in regard to the first ground of rejection.

VIII. CONCLUSION

For the foregoing reasons, it is submitted that the Examiner's rejection of claims 1-19 was erroneous, and reversal of his decision is respectfully requested.

The Commissioner is authorized to charge the appeal brief fee of \$330.00 and any other fees that may be due to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5181-76500/BNK. This Appeal Brief is submitted with a return receipt postcard.

Respectfully submitted,



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IX. CLAIMS APPENDIX

The claims on appeal are as follows:

1. A computer mouse or trackball comprising:
a heating element configured to generate heat, wherein the input device is configured to transfer heat from the heating element to the hand or wrist of a user of the input device during use.
2. The device of claim 1, further comprising a temperature sensor coupled to the heating element.
3. The device of claim 1, further comprising a microcontroller coupled to the heating element, wherein the microcontroller is configured to control the amount of heat produced by the heating element.
4. The device of claim 1, further comprising a temperature sensor coupled to the heating element and a microcontroller coupled to the heating element, wherein the microcontroller is configured to control the amount of heat produced by the heating element in response to a temperature monitored by the temperature sensor.
5. The device of claim 1, further comprising a temperature sensor coupled to the heating element, wherein the input device is coupled to a computer system such that the computer system is coupled to the heating element, and wherein the computer system is configured to control the amount of heat produced by the heating element in response to a temperature monitored by the temperature sensor.
6. The device of claim 1, wherein the input device is coupled to a computer system, and wherein power to the heating element is supplied by the computer system.

7. The device of claim 1, wherein the input device comprises an external control device, wherein the external control device is configured to allow a user to alter the heat output of the heating element.

8. The device of claim 1, further comprising a plurality of heating elements, wherein the heating elements are distributed.

9. The device of claim 1, wherein the heating element is centralized.

10. A computer mouse or trackball comprising:
a vibrating element configured to generate vibrations, wherein the input device is configured to transfer vibrations from the vibrating element to the hand or wrist of a user of the input device during use.

11. The device of claim 10, further comprising a vibration sensor coupled to the vibrating element.

12. The device of claim 10, further comprising a microcontroller coupled to the vibrating element, wherein the microcontroller is configured to control the amount of vibration produced by the vibrating element.

13. The device of claim 10, further comprising a vibration sensor coupled to the vibrating element and a microcontroller coupled to the vibrating element, wherein the microcontroller is configured to control the vibrations produced by the vibrating element in response to the vibrations monitored by the vibration sensor.

14. The device of claim 10, further comprising a vibration sensor coupled to the vibrating element, wherein the input device is coupled to a computer system such that the computer system is coupled to the vibrating element, and wherein the computer

system is configured to control the amount of vibration produced by the vibrating element in response to vibrations monitored by the vibrating sensor.

15. The device of claim 10, wherein the input device is coupled to a computer system, and wherein power to the vibrating element is supplied by the computer system.

16. The device of claim 10, wherein the input device comprises an external control device, wherein the external control device is configured to allow a user to alter the vibration output of the vibrating element.

17. The device of claim 10, further comprising a plurality of vibrating elements, wherein the vibrating elements are distributed.

18. The device of claim 10, wherein the vibrating element is centralized.

19. A computer mouse or trackball comprising:

a heating element configured to generate heat, wherein the input device is configured to transfer heat from the heating element to the hand or wrist of a user of the input device during use; and

a vibrating element configured to generate vibrations, wherein the input device is configured to transfer vibrations from the vibrating element to the hand or wrist of a user of the input device during use.

X. EVIDENCE APPENDIX

No evidence submitted under 37 CFR §§ 1.130, 1.131 or 1.132 or otherwise entered by the Examiner is relied upon in this appeal.

XI. RELATED PROCEEDINGS APPENDIX

There are no related proceedings.